AMENDMENTS TO THE CLAIMS

1. (Currently amended) In system for maintaining a plurality of assemblies including a plurality of replaceable components, a method of determining time intervals at which unscheduled demand for the components is expected to occur, comprising:

establishing a set of statistical models for a probability of unscheduled component demand as a function of at least ~~one variable pertaining to component usage~~ a failure rate of a component;

for each component, collecting historical unscheduled component demand data;

for each component, using the collected historical unscheduled component demand data to select models one model of the probability of unscheduled component demand as a function of time;

for each component, selecting an allowable probability of underestimating an average failure rate, α; and

using the selected model of the probability of unscheduled component demand ~~as a function of the at least one variable pertaining to component usage for each component~~ to calculate the time intervals at which the unscheduled component demand is expected to occur.

2. (Currently amended) The method of claim 1, wherein using the selected model of the probability of unscheduled component demand ~~as a function of the at least one variable pertaining to component usage~~ to calculate the time intervals at which the unscheduled component demand is expected to occur comprises calculating a time interval when the a probability of a next unscheduled component demand event equals the probability that the unscheduled component demand will not exceed the allowable probability $(1-\alpha)$.

3. (Previously presented) The method of claim 1, wherein each statistical model comprises a Poisson distribution,

$$P\{N(t) = f\} \cong e^{-\lambda \cdot t} \frac{(\lambda \cdot t)^f}{f!}$$

4. (Currently amended) The method of claim 3, wherein selecting the statistical models comprises selecting ~~a set of~~ an equation[[s]] for λ.

5. (Currently amended) The method of claim 1, further comprising eliminating~~, from within the at least one variable pertaining to component usage,~~ insignificant variables and variables that cause multicollinearity from each of the established models using the historical unscheduled component data.

6. (Previously presented) The method of claim 1, wherein each statistical model comprises a Poisson distribution,

$$P\{N(t)_{i,j,m} = f\}_k \cong e^{-\lambda_{i,j,k,m} * t} * \frac{(\lambda_{i,j,k,m} * t)^f}{f!}$$

7. (Currently amended) A method of forecasting unscheduled demand for a plurality of different components, comprising:

establishing a set of statistical models for modeling unscheduled demand for the components as a function of a failure rate of each of the components; ~~wherein the statistical models are each a function of at least one variable pertaining to component usage;~~

for each component, selecting one of the statistical models for a probability of unscheduled component demand; and

for each component, determining a date at which a cumulative probability of unscheduled component demand reaches a predetermined threshold.

8. (Previously presented) The method of claim 7, wherein each statistical model comprises an N-erlang distribution,

$$P\{S_{n,i,j,m} \le t\}_k \cong \begin{cases} 1 - \sum_{r=0}^{n-1} e^{-\lambda_{i,j,k,m} * t} \frac{(\lambda_{i,j,k,m} * t)^r}{r!} & \text{if } t \ge 0 \\ 0 \quad \text{otherwise} \end{cases}$$

9. (Currently amended) The method of claim 8, wherein selecting the statistical models comprises selecting ~~a set of~~ an equation[[s]] for λ.

10. (Previously presented) The method of claim 7, wherein each statistical model corresponds to a Poisson distribution,

$$P\{N(t) = f\} \cong e^{-\lambda \cdot t} \frac{(\lambda \cdot t)^f}{f!}$$

11. (Currently amended) The method of claim 10, wherein selecting the statistical models comprises selecting ~~a set of~~ an equation[[s]] for λ.

12. (Currently amended) The method of claim 1, wherein the failure rate of the component is a function of ~~at least one variable pertaining to component usage includes~~ temperature.

13. (Currently amended) The method of claim 1, wherein the failure rate of the component is a function of ~~at least one variable pertaining to component usage includes~~ hours of operation.

14. (Currently amended) The method of claim 1, wherein the failure rate of the component is a function of ~~at least one variable pertaining to component usage includes~~ flight cycles.

15. (Canceled)

16. (Canceled)